

REMARKS

Claims 9, 11-15, and 24-34 are pending herein.

I. The claim amendments are permissible under 37 CFR 1.116 because the added limitations are similar to previously examined claims 24 and 32.

Applicants are respectfully aware of the rules and limits to claim amendments after final rejection. Applicants respectfully assert that the amendments to claims 9 and 29 can be entered because no new search is required, and because the amendments place the claims in better condition for appeal.

The amendments to claims 9 and 29 claim in relevant part that “the loader is located in the low cleanliness room while the dust free article is being transferred.” No new matter is introduced by these amendments. Support for these amendments can be found on pages 11-12 of the present specification.

Regarding these amendments, applicants respectfully note that present claims 24 and 32 already claim similar limitations. Specifically, claim 24 claims “a loader disposed in a low cleanliness room,” and claim 32 claims “a movable stage for mounting a container in such a manner that the entire container remains in a low cleanliness room.”

Thus, it is respectfully asserted that no new search is required because claims 24 and 32 already contain limitations similar to the amendments to amended claims 9 and 23. Therefore, the claim amendments may be permissibly entered after final rejection.

Furthermore, Applicants respectfully note that on page 7 of the Office Action, the USPTO states: “the claims do not require the loader to be in the low cleanliness room while the wafers are being transferred.” Applicants respectfully note that the amendments to claims 9 and 29 remove this issue, thus presenting the application in better form for appeal. Therefore, it is respectfully asserted that the amendments to claims 9 and 29 can be entered, and are also in accordance with the Examiner’s reasoning.

Additionally, applicants respectfully note that the USPTO has made this first Office Action after RCE a Final Office Action under MPEP 706.07(b), which requires that the rejection be made on the same grounds and art of record in the previous Office Action. However, on page 7 of the present Office Action, the USPTO respectfully states:

“Applicant counters this by arguing that the mini-environment is sealed from the surrounding atmosphere and that the wafers are moved through the clean mini-environment while being transferred to the load lock. While this is not contested, it is not germane to the claimed subject matter, because the claims do not require the loader to be in the low cleanliness room while the wafers are being transferred. It is important to note that the load lock of Muka is also disclosed as being sealed from the surrounding atmosphere, as noted above. **The fact remains that the mini-environment is exposed to the surrounding atmosphere, and thus is in the low-cleanliness room, at least part of the time.**” (emphasis added)

It is respectfully not seen where at least these new arguments (**in bold**) were made in a prior Office Action, and thus, it is respectfully asserted that this “at least part of the time the mini-environment is exposed to the surrounding atmosphere” argument and other new arguments constitute impermissible new grounds of rejection. Additionally, the new argument in bold, is very important and essential to the Examiner’s new rejection reasoning, i.e., that the mini-environment is somehow a low-cleanliness room – at least part of the time. Thus, according to the Examiner’s “own personal knowledge” technological interpretation this new rejection is impermissibly presented for the first time in this Office Action – and the Examiner’s interpretation is also contrary to what the reference itself describes -- and what the term “mini-environment” means in the art, i.e., a clean and controlled area. (See discussion below also at section B).

Therefore, the present first Office Action should not have been made final under MPEP 706.07(b), and is “premature” under MPEP 706.07(b). Therefore, applicants respectfully request that the finality be removed.

II. The claim objections.

In claim 9, “lower” has been replaced by “low,” as respectfully suggested by the Examiner.

III. The rejections of claims 16-23 under 35 U.S.C. 112, second paragraph.

Applicants respectfully note that claims 16-23 have been cancelled.

IV. The obviousness rejections based on Muka et al. (US 5,613,821) in view of Briner et al. (US 5,810,537) and Mastroianni (US 6,068,668).

The USPTO respectfully rejects Claims 9, 11-17 and 19-34 under U.S.C. § 103(a) as being obvious over Muka et al. in view of Briner et al. and Mastroianni. Claims 16-17 and 19-23 are cancelled herein. Claims 9, 24, 29, and 32 are independent claims.

A. The cited references do not teach or suggest a unifying means for unifying the cover of the container and the door in the low cleanliness room, as claimed in claim 9.

Regarding the limitations of claim 1 that claim in relevant part:

“a unifying means for unifying the cover of the container and the door in the low cleanliness room;” (**emphasis added**)

it is respectfully not seen where the cited references teach or suggest the claimed structure quoted above.

Specifically, the USPTO respectfully alleges that Muka teaches a cover 42 unified with the door 80 in a low cleanliness room. Thus, because cover 42 and door 80 interact in mini-environment 58 of Muka, as seen in Figures 3-4 of Muka, it is respectfully noted that the USPTO alleges that mini-environment 58 is the claimed low cleanliness room of claim 9. See also the Office Action at page 7 where the USPTO respectfully states in its new argument made in the present Office Action that:

“The fact remains that the mini-environment is exposed to the surrounding atmosphere, and thus is in the low-cleanliness room, at least part of the time.”

However, the USPTO is technically incorrect (see column 5, lines 19-21 and column 6, lines 22-24 of Muka. Specifically, as noted in previous responses filed by Applicants, it is respectfully asserted that mini-environment 58 is not a low cleanliness room.

Specifically, as noted in column 5, lines 51-54 of Muka, mini-environment 58 “sealingly isolat[es] the load clock 22 and the interior 40 of the carrier 32 from the surrounding atmosphere” (**emphasis added**). Furthermore, both carrier 32 and load lock 22 are substantially particle free environments” (see column 5, lines 19-21 and column 6, lines 22-24 of Muka). Additionally, column 5, line 15 of Muka states: “within the **clean** mini-environment” (**emphasis added**) Thus, it is clear that the USPTO is technically incorrect when it states on page 7 of the Office Action that “the mini-environment is

exposed to the surrounding atmosphere, and thus is in the low-cleanliness room,” because the mini-environment is a “clean mini-environment” by definition. In fact, as previously explained, “mini-environment” is a well know term of art meaning a clean and contaminant-controlled wafer transfer area (see also section B below).

As further noted in column 6, line 62 through column 7, line 18 of Muka, load lock door 80 and carrier door 42 must both be opened during the transfer of wafers through mini-environment 58 into load lock 22, as is clearly illustrated in Figure 8 of Muka. Additionally, Muka explicitly states in column 8, lines 33-37 that:

“It will be appreciated that operation of the multilevel end effector 84 cannot be achieved until the drive mechanism 118 has been operated to move the load lock door, the coupling device 98, and the carrier door 42 all to the lowered position as indicated in FIG. 8.”

Therefore, it is respectfully clear that mini-environment 58 is exposed to both carrier 32 and load lock 22 during the operation of the device in Muka, at least when the wafers are transferred through mini-environment 58. Thus, because mini-environment 58 is exposed to both carrier 32 and load lock 22, it is respectfully reiterated that mini-environment 58 cannot be a low cleanliness room. If, as the USPTO respectfully suggests, mini-environment 58 is a low cleanliness room, then the “substantially particle free environment” of carrier 32 and load lock 22 would be destroyed. Therefore, in order for the device in Muka to serve its intended purpose, mini-environment 58 must inherently be a high cleanliness room, at least when the wafers are transferred. Therefore, the USPTO has made a clear and appealable technical error.

Thus, the USPTO’s proposed interpretation of mini-environment 58 as a low cleanliness room would render the device in Muka unsatisfactory for its intended purpose because carrier 32 and load lock 22 would no longer be “substantially particle free environments” after the transfer of the wafers. Additionally, it is respectfully clear that any modification of Muka to replace mini-environment with a low-cleanliness room would likewise render the device in Muka unsatisfactory for its intended purpose (see MPEP 2143.01 V). Therefore, the USPTO is technically incorrect.

Additionally, it is respectfully asserted that the Briner and Mastroianni references do not overcome this deficiency in the primary Muka reference.

In contrast, present Figure 2 illustrates one possible embodiment of the claimed structure quoted above. Specifically, present Figure 2 illustrates a high cleanliness room

to the right of wall 105 and a low cleanliness room to the left of wall 105 (see page 13 of the present specification). Additionally, as explained on page 15 of the present specification, cover 103 and door 104 are unified, for example, by clamp mechanisms or frictional means. It is respectfully important to note that this unification occurs to the left of wall 105 in the low cleanliness room, as shown in present Figure 2. In other words, the unifying means is structured to unify the cover 103 of the container and the door 104 in the low cleanliness room, as claimed in claim 9.

In Muka, however, cover 42 and door 80 are unified by a unifying means in mini-environment 58, as seen in Figures 3 and 8 of Muka. However, as discussed above, mini-environment 58 is a high cleanliness room, not a low cleanliness room, at least when the cover 42 and door 80 are unified during the wafer transfer. Therefore, Muka does not teach or suggest a unifying means for unifying the cover of the container and the door in the low cleanliness room, as claimed in claim 1.

Thus, it is respectfully asserted that the cited references, taken either alone or in combination, do not teach or suggest a unifying means for unifying the cover of the container and the door in the low cleanliness room, as claimed in claim 9. Therefore, it is respectfully asserted that claim 9 is not obvious over the cited references.

B. The USPTO impermissibly relies on the Examiner's unsupported personal or common knowledge to teach or suggest a specifically claimed limitation.

It is respectfully noted that under 35 U.S.C. § 103(a) all of the limitations of the claims must be taught or suggested by the cited references or official notice has to be taken (see MPEP 2144.03). As MPEP 2144.03A notes: "It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697."

At page 7 of the Office Action, the USPTO does not cite a reference or take official notice to teach the claimed limitation of "a unifying means for unifying the cover of the container and the door in the low cleanliness room," (emphasis added) as claimed in claim 9. Instead, the USPTO relies on a statement of the Examiner's own personal knowledge in combination with Muka, wherein the Examiner respectfully states on page 7 of the Office Action that:

“The fact remains that the mini-environment is exposed to the surrounding atmosphere, **and thus is in the low-cleanliness room, at least part of the time.**” (emphasis added)

Thus, once again, it is respectfully reiterated that Muka does not teach or suggest that the mini-environment is a low cleanliness room. Instead, Muka teaches the exact opposite, i.e., that the mini-environment is actually a high cleanliness room. Specifically, as noted in column 5, lines 51-54 of Muka, mini-environment 58 “sealingly isolat[es] the load clock 22 and the interior 40 of the carrier 32 from the surrounding atmosphere” (emphasis added). Furthermore, both carrier 32 and load lock 22 are substantially particle free environments (see column 5, lines 19-21 and column 6, lines 22-24 of Muka). Thus, as previously noted above in section IV.A, mini-environment 58 of Muka is clearly a high cleanliness room according to Muka. Instead, the Examiner appears to use his own personal knowledge to contradict the teachings of the reference and somehow impermissibly “fill in the gaps” to cover a major claimed limitation:

“The fact remains that the mini-environment is exposed to the surrounding atmosphere, **and thus is in the low-cleanliness room, at least part of the time.**” (emphasis added)

Further, MPEP 2144.03 (E) cites relevant case law and states:

“Any rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner’s conclusion should be judiciously applied. Furthermore, as noted by the court in Ahlert, any facts so noticed should be of notorious character and serve only to “fill in the gaps” in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground for rejection. It is never appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based. See Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697; Ahlert, 424 F.2d at 1092, 165 USPQ 421.” (emphasis added)

Furthermore, rejections without documentary evidence “should be rare when an application is under final rejection (see MPEP 2144.03(A)).

Additionally, the claimed limitation quoted above, specifically “a unifying means for unifying the cover of the container and the door in the low cleanliness room,” is

important because it reduces the likelihood that the mechanical operation of the device will contaminate the high cleanliness room, as noted on pages 5-6 of the specification.

Furthermore, the claimed structure of claim 1, i.e. a unifying means for unifying the cover of the container and the door in the low cleanliness room, is not common knowledge because related art does not teach such a device. As noted on pages 4-5 of the present specification, for example, other devices perform the transfer of dust-free articles inside a high cleanliness room.

Because the claimed limitation quoted above is important and not common knowledge, applicants “seasonably challenge” and traverse the Examiner’s reliance on personal or common knowledge and require that a reference be cited. See MPEP 2144.03 stating:

“C. If Applicant Challenges a Factual Assertion as Not Properly Officially Noticed or not Properly Based Upon Common Knowledge, the Examiner Must Support the Finding With Adequate Evidence

To adequately traverse such a finding, an applicant must specifically point out the supposed errors in the examiner’s action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). See also Chevenard, 139 F.2d at 713, 60 USPQ at 241 (“[I]n the absence of any demand by appellant for the examiner to produce authority for his statement, we will not consider this contention.”). A general allegation that the claims define a patentable invention without any reference to the examiner’s assertion of official notice would be inadequate. If applicant adequately traverses the examiner’s assertion of official notice, the examiner must provide documentary evidence in the next Office action if the rejection is to be maintained. See 37 CFR 1.104(c)(2). See also Zurko, 258 F.3d at 1386, 59 USPQ2d at 1697 (“[T]he Board [or examiner] must point to some concrete evidence in the record in support of these findings” to satisfy the substantial evidence test). If the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding. See 37 CFR 1.104(d)(2).” (emphasis added)

Thus, applicants respectfully assert that the rejection to claim9 has been overcome.

C. The cited references do not teach or suggest a loader located in the low cleanliness room while the dust free article is being transferred, as claimed in claim 9.

Regarding the limitations of claim 9 that claim in relevant part:

“wherein the loader is located in the low cleanliness room while the dust free article is being transferred;” (emphasis added)

it is respectfully not seen where the cited references teach or suggest the claimed structure quoted above.

Specifically, as noted on page 7 of the Office Action, the USPTO respectfully states:

“Applicant counters this by arguing that the mini-environment [of Muka] is sealed from the surrounding atmosphere and that the wafers are moved through the clean mini-environment while being transferred to the load lock. . . . [T]his is not contested.”

Additionally, as noted above, it is respectfully asserted that **the mini-environment of Muka is inherently clean, at least while the wafers are being transferred through the mini-environment.** Therefore, Muka does not teach or suggest a loader located in a low cleanliness room while the dust free article is being transferred. Furthermore, it is respectfully asserted that the Briner and Mastroianni references do not overcome this deficiency in the primary Muka reference.

In contrast, as clearly seen in present Figure 2, the loader remains to the left of wall 105. Thus, it is respectfully noted that the loader (i.e. stage 107 and driving device 108) is located in the low cleanliness room while the dust free article is being transferred, as claimed in claim 9.

Thus, it is respectfully asserted that the cited references, taken either alone or in combination, do not teach or suggest all the claimed limitations of claim 9. Thus, it is respectfully asserted that claim 9 is not obvious over the cited references.

D. Response to USPTO's arguments.

On page 6 of the Office Action, the USPTO respectfully alleges, “the claims do not require the low cleanliness room to be less clean than the high cleanliness room, nor do they require the high cleanliness room to be cleaner than the low cleanliness room.”

However, it is respectfully asserted that one of ordinary skill in the relevant art would clearly understand that a low cleanliness room is less clean than a high cleanliness room, and that a high cleanliness room is cleaner than a low cleanliness room. Thus, it is respectfully asserted that it is not necessary to further define these terms, because they are standard American English terms that are clearly defined relative to each other.

Therefore, the USPTO's reasoning is respectfully incorrect.

E. Independent claims 24, 29, and 32.

Applicants respectfully note that independent claims 24 and 32 claim a unifying means in a low cleanliness room and a loader in a low cleanliness room, similar to claim 9. Additionally, independent claim 29 claims unifying the cover of the container and the door of the loader in the low cleanliness room and a loader in a low cleanliness room while an article is being transferred, similar to claim 9. As noted above, it is respectfully asserted that the cited references, taken either alone or in combination, do not teach or suggest these claimed limitations. Therefore, it is respectfully asserted that independent claims 24, 29, and 32 are allowable.

F. The dependent claims.

As noted above, it is respectfully asserted that independent claims 9, 24, and 29 are allowable, and therefore it is further respectfully asserted that dependent claims 11-15, 25-28, 30-31, and 33-34 are also allowable.

V. The obviousness rejections based on Muka et al. (US 5,613,821) in view of Briner et al. (US 5,810,537) and Mastroianni (US 6,068,668) and further in view of Bonora et al. (US 5,895,191).

The USPTO respectfully rejects Claim 18 under U.S.C. § 103(a) as being obvious over Muka et al. in view of Briner et al. and Mastroianni, and further in view of Bonora et al. Applicants respectfully note that claim 18 has been cancelled.

VI. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

Respectfully submitted,

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* the above is an "s-signature" 37 CFR 1.4(d)(2)